

2003 URBAN WATER CONSERVATION GRANT APPLICATION

Submitted by:

City Of Los Altos
Public Works Department
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Part A – Project Description, Organization, Financial and Legal Information**A-1 Urban Water Conservation Grant Application Cover Sheet**

1. Applicant (Organization or affiliation): **City of Los Altos**
2. Project Title: **ET Controller Installation in 6 City Parks**
3. Person authorized to sign and submit proposal:

Name, Title	Jim Porter, Public Works Director
Mailing address	1 North San Antonio Road
Telephone	(650) 947-2622
Fax	(650) 941-7419
E-mail	jim.porter@ci.los-altos.ca.us

4. Contact person (if different):

Name, Title	_____
Mailing address	_____
Telephone	_____
Fax	_____
E-mail	_____

5. Funds requested (dollar amount):

\$50,000

6. Applicant funds pledged (local cost share) (dollar amount): **\$**

5,000

7. Total project costs (dollar amount):

\$55,000

8. Estimated net water savings (acre-feet/year):

19.2

Estimated total amount of water to be saved (acre-feet):

19.2

Over 10 years

192.0

Benefit/cost ratio of project for applicant (over 10 years)

2.01

Estimated \$/acre-feet of water to be saved:

\$800

9. Project life (month/year to month/year):

11/03 -

11/04

10. State Assembly District where the project is to be conducted:

21

11. State Senate District where the project is to be conducted:

11

12. Congressional District(s) where the project is to be conducted:

14

13. County where the project is to be conducted:

Santa

Clara

14. Do the actions in this application involve physical changes in land use, or potential future changes in land use? (b)

No

A-2 Application Signature Page

By signing below, the official declares the following:

The truthfulness of all representations in the application;

The individual signing the form is authorized to submit the application on behalf of the applicant;

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the application on behalf of the applicant; and

The applicant will comply with all terms and conditions identified in this Application Package if selected for funding.

Signature

Name and title

Date

A-3 Application Checklist

N/A = Not Applicable to this Project

Part A: Project Description, Organizational, Financial and Legal Information

Included	A-1 Urban Water Conservation Grant Application Cover Sheet
Included	A-2 Application Signature Page
Included	A-3 Application Checklist
Included	A-4 Description of project
N/A	A-5 Maps
Included	A-6 Statement of Work, Schedule
Included	A-7 Monitoring and Evaluation
Included	A-8 Qualifications of the Applicant and Cooperators
Included	A-9 Innovation
Included	A-10 Agency Authority
Included	A-11 Operation and maintenance (O&M)

Part B: Engineering and Hydrologic Feasibility (construction projects only)

N/A	B-1 Certification statement
N/A	B-2 Project reports and previous studies
N/A	B-3 Preliminary project plans and specifications
N/A	B-4 Construction inspection plan

Part C: Plan for Environmental Documentation and Permitting

N/A	C-1 CEQA/NEPA
N/A	C-2 Permits, easements, licenses, acquisitions, and certifications
N/A	C-3 Local land use plans
N/A	C-4 State and local statutes and regulations

Part D: Need for Project and Community Involvement

Included	D-1 Need for project
Included	D-2 Community involvement, support, opposition

Part E: Water Use Efficiency Improvements and Other Benefits

Included	E-1 Water use efficiency improvements
Included	E-2 Other project benefits

Part F: Economic Justification, Benefits to Costs Analysis

- Included F-1 Net water savings
- Included F-2 Project budget and budget justification
- Included F-3 Economic efficiency
- Included Benefit/Cost Analysis Tables 1; 2; 3; 4a, 4b, 4c, 4d; and 5

A-4 Description of Project

The City of Los Altos would like to install evapotranspiration (ET) based landscape irrigation controllers in the six largest public parks in Los Altos, located within city limits, totaling 21 acres, including 13 acres of turf. These 6 parks consume approximately 55 acre-feet of water annually, and show signs of over-watering conditions. A 35% reduction in water consumption would save 19.2 acre-feet of water per year. At a water cost rate of \$800 per acre-foot, this savings is \$15,326 per year. In addition, approximately \$4,800 per year would be saved in labor, equipment and materials in lowered park maintenance, fast determination of water breaks in the system limiting damage, and reduction in landscape and hardscape repairs due to the reduction in water runoff. Total cost for implementing this program is \$55,000, which includes the purchase of the ET controllers, flow sensors and installation. Cost of maintenance and operation per year is estimated at \$3,240. The City of Los Altos is requesting \$50,000 in funding, with the City of Los Altos providing \$5,000 in matching funds. If the ET-based irrigation systems can save \$19,000 per year, the cost of the program would be paid back in just a little more than two years.

If awarded this grant, the City of Los Altos will install ET-based landscape irrigation controllers from Interactive Water Systems (IWS) in its six largest parks. These controllers would replace the existing manual timer-based controllers.

During the first year of operation, the City of Los Altos will closely monitor the ET controllers operation, landscape quality, etc., and on a monthly basis will compare water usage to the historical usage levels.

This proposed upgrade of our irrigation systems will provide long term cost savings to the City of Los Altos and result in significant savings in water usage, a common goal of DWR and SCVWD.

**Six Largest Parks in Los Altos, by Turf-Acre,
Selected for ET-based Controller Installation**

No.	Los Altos Parks and Community Property	Total Acres	Turf Acres	Annual Water Usage, Ac-Ft	Annual Water Saved, Ac-Ft at 35%	Total Cost of Water Used at \$800 acre-foot	Total Amount of Water Savings at 35%
1	Rosita Park	5.0	3.1	13.6	4.8	\$ 10,860	\$ 3,801
2	Grant Park	4.5	2.6	11.4	4.0	\$ 9,108	\$ 3,188
3	Lincoln Park - Old	2.9	2.5	10.9	3.8	\$ 8,758	\$ 3,065
4	Soccer Field	1.8	1.8	7.9	2.8	\$ 6,306	\$ 2,207
5	Heritage Oaks Park	5.3	1.3	5.7	2.0	\$ 4,554	\$ 1,594
6	Lincoln Park - New	1.5	1.2	5.3	1.8	\$ 4,204	\$ 1,471
	Totals:	21.1	12.5	54.7	19.2	\$ 43,790	\$ 15,326
Total Annual Savings, 6 Parks, with ET-based Irrigation Controllers:							\$ 15,326

Table 1: Project Summary – Water, Cost Savings

A-5 Maps

Not applicable to this project. However, addresses if the parks where the ET controllers are to be installed are given above in section **A-4**.

No.	Los Altos Parks and Community Property	Location
1	Rosita Park	401 Rosita Drive
2	Grant Park	1575 Holt Avenue
3	Lincoln Park - Old	University Avenue between Burke Lane and Edith Avenue
4	Soccer Field	97 Hillview Avenue
5	Heritage Oaks Park	Portland Ave at McKenzie Drive
6	Lincoln - New	Lincoln Avenue at W. University Avenue

Table 2: Project Locations

A-6 Statement of Work, Schedule

Project Plan and Goals

The project is located within the City of Los Altos and encompasses six public parks that utilize 55 acre-feet of water for landscape irrigation annually. This goal of this project is to replace the six existing irrigation controllers (multi-zone, manually-set timers) with ET controllers. Given the general state of over-watering at these parks, the goal is to reduce water consumption by 30% to 40%. Secondary benefits beyond water and cost savings are also realized. Turf and shrub quality should improve as a result of this project. A reduction in cost of maintenance (labor), fuel and equipment required to maintain the landscaping, repair failures in the irrigation system (due in part to excessive lag time to notification of problems) and repair landscape and hardscape due to excessive runoff should also be realized.

Work Schedule

Once the project is funded, work promptly begins:

October 2003

Installation of the five phone lines at each target site, complete by end of month. Grant Park has a phone line installed from a previous ET pilot program. The City

intends to seek proposals from qualified ET based irrigation controller suppliers and select the most qualified vendor for purchase and installation of the ET controller system.

December 2003

Select a qualified vendor and install all six ET controllers. Installation, systems set-up and check out are complete by December 30 and normal operation begins.

January 2004 – December 2004

The City of Los Altos will monitor irrigation at all Los Altos parks, including the six parks with ET controllers for proper operation and quality of the turf and shrub landscaping. At the end of each month, water consumption data for each of the six parks will be entered into a spreadsheet for comparison to the six-year historical data. Either quarterly, or monthly, depending upon request, Los Altos will forward this data to DWR.

Costs

The total cost of this project is given in table 3, below. All expenditures for the purchase and installation of the ET equipment occur in the first quarter. A contingency cost of 15% and an administrative/overhead factor of 10% has been added, which brings equipment and installation to \$55,000. The Operation and Maintenance costs consist of monthly services fees to the phone company for use of six phone lines and support costs. O&M is estimated at \$3,240 per year.

Item	Description	Unit Cost	Qty	Total Cost
1	IWS ET Irrigation Controller - 24 station unit with modem and sensor input	\$ 3,000	6	\$ 18,000
2	Flow Sensor	\$ 480	6	\$ 2,880
3	Subtotal			\$ 20,880
4	8.25% sales tax			\$ 1,723
5	Initial controller set up	\$ 1,500	6	\$ 9,000
6	Installation of phone line and jack at each park location	\$ 2,000	5	\$ 10,000
8	Administration /Overhead at 10%			\$ 4,160
9	Contingency costs at 15%			\$ 6,240
Total Cost Equipment & Installation:				\$ 52,004

Item	Description	Unit Cost	Qty	Total Cost
1	Phone service, monthly cost per phone line, annualized	\$ 15	72	\$ 1,080
2	Support cost, per month, annualized	\$ 30	72	\$ 2,160
Total Annual Cost Operation & Maintenance:				\$ 3,240

Table 3: Project Costs**A-7 Monitoring and Evaluation**

As stated in section A-7 above, The City of Los Altos will monitor operation at all six Los Altos ET parks for proper operation and quality of the turf and shrub landscaping.

At the end of each month, water consumption data for each of the six parks will be entered into an Excel spreadsheet for comparison to historical data.. Los Altos will provide a monthly summary of this information to DWR, as requested.

A-8 Qualifications of the Applicant and Cooperators

Include a resume(s) of the project manager(s). Resumes may be attached to the end of the Application and shall not exceed two pages.

Identify and describe the role of any external cooperators that will be used for this project.

Project Manager, Doug Riley, Director of Parks & Landscape, City of Los Altos,
Tel: (650) 947-2870, email: driley@ci.los-altos.ca.us

External Contractors for purpose of installation of controllers and flow sensors, set up and initialization of controllers:

Interactive Water Systems, Inc. (licensed & insured)
And/or other certified Landscape Architects approved by the Santa Clara Valley Water Service District and the City of Los Altos.

A-9 Innovation

Describe innovative technologies or methodologies to be employed in the project that could contribute to improved efficiencies in projects throughout the State.

The City of Los Altos is pursuing this project for two main reasons. We believe that ET based irrigation controller technology is a viable means of reducing water consumption in our parks and athletic fields. The state and community will benefit in that less water will be used by the City. The City will benefit by cost savings resulting from less water use. In addition, once the City becomes more familiar with the technology, we intend on converting the remaining seven City parks to ET based controllers. Those parks were not included in this grant proposal because they do not consume as much water as the six parks chosen for this pilot project.

Another benefit that can be reaped from this project is that the City of Los Altos will demonstrate the viability of ET based irrigation controller technology to our neighboring cities. At this point, Los Altos is not aware of any neighboring jurisdictions using this technology. By observing the results of Los Altos' project, the cities of Mountain View, Palo Alto, Sunnyvale, and Cupertino may choose to implement the technology in their jurisdictions, which are much larger than Los Altos.

A-10 Agency Authority

Address the following five questions pertaining specifically to this application.

1. Does the applicant (official signing A-2, Application Signature Page) have the

legal authority to submit an application and to enter into a funding contract with the State? Provide documentation such as an agency board resolution or other evidence of authority.

The applicant is the City of Los Altos, California, which has the legal authority, as an incorporated city, to enter a funding agreement with the State of California.

2. What is the legal authority under which the applicant was formed and is authorized to operate?

The City of Los Altos was incorporated in 1952.

3. Is the applicant required to hold an election before entering into a funding contract with the State?

The City Council of the City of Los Altos must approve, by majority vote, both the submission of this application (approved by majority vote of Council November 26, 2002) and the acceptance of the Urban Water Grant, if so awarded.

4. Will the funding agreement between the applicant and the State be subject to review and/or approval by other government agencies? If yes, identify all such agencies (e.g. Local Area Formation Commission, local governments, U.S. Forest Service, California Coastal Commission, California Department of Health Services, etc.).

No.

5. Is there any pending litigation that may impact the financial condition of the applicant, the operation of the water facilities, or its ability to complete the proposed project? If none is pending, so state.

No litigation is pending or anticipated that might impede deployment of this project.

A-11 Operations and Maintenance

Summary of the Operation and Maintenance costs for current water facilities.

Maintenance Required by Existing Landscape Irrigation Controllers in Los Altos:

1. Maintenance required to go on-site to each controller and updating the programming based on varying watering needs (due to seasonal/weather changes),
2. Maintenance required to go to each controller to turn off watering due to

- high wind or rain conditions,
3. Maintenance required to service problems that develop in turf areas, due to over watering,
 4. Maintenance required to repair damaged turf and shrubs due to lack of water due to broken actuator valves that fail to open.
 5. Maintenance required to repair road, parking lot and other asphalt areas, landscape and softscape areas due to damage incurred due to excessive run-off.

The cost of the above maintenance items is estimated to be \$800 per park per year or approximately 1 to 2 man-days per year. This is a very conservative estimate that adds up to \$4,800 per year for the six parks in the project. Utilizing ET technology would save almost all of this O&M money. These O&M costs are accounted for in the annual budget for the Parks and Recreation Department.

Summary of the Operation and Maintenance costs for new ET-based technology

There are two new service costs that result by using controllers. These include:

1. Monthly phone service charge by local phone company if a dedicated phone line is required (i.e., not shared with another use/user). This is approximately \$15/month.
2. Support costs for equipment and software @ \$2,200/yr (estimate)

These two new O&M costs will eliminate the current O&M cost items 1 and 2, and largely eliminate items 3, 4 and 5.

The total cost of O&M for the new ET-based technology is \$3,240 per year. This is less than the cost of the current services that would be eliminated. The new service costs due to ET controller technology will be paid for out of the Parks and Landscape Department's operating and maintenance budget. The phone service charge plus the support charge are approximately \$45 per month or \$540 per year per controller.

Part B – Engineering and Hydraulic Feasibility

B-1 – Certification Statement

B-2 Project Reports and Previous Studies

B-3 Preliminary Project Plans and Specifications

B-4 Construction Inspection Plan

Part B not applicable to this Proposal

Part C – Plan for Completion of Environmental Documentation and Permitting Requirements

C-1 California Environmental Quality Act and National Environmental Policy Act

This project is categorically exempt from CEQA or NEPA

Proposed project has no potential for a direct physical change or a reasonably foreseeable indirect physical change in the environment.

C-2 Permits, Easements, Licenses, Acquisitions, and Certifications

C-3 Local Land Use Plans

C-4 Applicable Legal Requirements

Part C not applicable to this Proposal

Part D – Need for Project and Community Involvement

D-1 Need for the Project

Water is a scarce and precious resource within the state of California. As more and more water is pulled out of the delta and other accumulation sites – as a result of expanded agricultural use and the expansion of residential communities – increased contamination of the remaining water occurs. This is due to backwash of ocean water up the delta and migration of untreated and polluted water into the clean water accumulation sites.

While constructing more clean water accumulation sites is one component of the solution to this dilemma, another important component is water conservation. Voluntary water conservation programs are largely ineffective, except those that impose strict penalties for excessive use of water. Tiered water pricing - increasing the cost per unit water dramatically as consumption goes up - is a method that works, but is largely unpopular. And in many cases people just pay the increase cost and consume the same amount of water!

What is needed is a water conservation program that is completely transparent to the user. This is the beauty of evapotranspiration-based landscape irrigation technology. It has been proven in over 15 years of research and pilot programs that ET-based irrigation consisting yields 30% to 40% reduction in water usage and still producing the same quality of results in terms of health and quality of the crops or landscape receiving this technology. Not only will it reduce water consumption in the 30%-40% range, it lowers the consumers' water bills by the same percentage!

D-2 Outreach, Community Involvement, Support, Opposition

Should the City receive the grant, we will notify the local newspaper of the project and encourage them to prepare a story on the technology. No opposition to the project has been encountered as of this time, nor is any opposition expected.

Part E – Water Use Efficiency Improvements and Other Benefits

E-1 Water Use Efficiency Improvements

The water use efficiency of this project is simply a result of upgrading dumb, set-and-forget timer-based landscape irrigation controllers with new ET-based controllers that receive updated water schedules. We expect that a 30% to 40% reduction in water consumption can be achieved.

In a single year, and every year, we expect to reduce the water consumption in the six project parks by at least 35%, from 55 acre-feet to 36 acre-feet, a savings of 19 acre-feet of water, a cost savings of \$15,326 per year (\$800 per acre-foot).

With a first year cost of \$55,000 and a recurring service charge of \$3240 per year, this yields savings and the following costs:

Initial Equipment and Installation \$ 52,000			
Annual Operation & Maintenance \$ 3,240			
Annual water savings \$ 15,326			
Year	Savings		Cost
1	\$	15,326	\$ 55,240
2	\$	30,652	\$ 58,480
3	\$	45,978	\$ 61,720
4	\$	61,304	\$ 64,960
5	\$	76,630	\$ 68,200
6	\$	91,956	\$ 71,440
7	\$	107,282	\$ 74,680
8	\$	122,608	\$ 77,920
9	\$	137,934	\$ 81,160
10	\$	153,260	\$ 84,400

Table 4: Savings and Costs

In addition to the cost of the water saved, we have the actual saving of a large amount of water. This water can be allocated for other uses or stored in the accumulation sites, helping to offset the effects of pollution from ground water and salinity.

This considers only the cost of the water saved. There are other savings as well, given in E-2.

E-2 Other Project Benefits

Additional Savings to be realized by this project:

1. Cost reduction due to eliminating the need for going on-site to each controller to change the timer programming based on varying watering needs (due to seasonal/weather changes),
2. Cost reduction due to eliminating the need to go onsite to each controller to turn off watering due to high wind or rain conditions,
3. Cost reduction due to eliminating current over-watering conditions primarily for turf - fewer problems will develop in turf area, reducing the maintenance of turf areas in general,
4. Cost reduction by reducing road, parking lot and other asphalt repair, reduce turf/shrub/soil repair due to excessive run-off. ET technology should prevent over-watering conditions that will result in run off,
5. Cost reduction by reducing run-off, which in turn reduces the amount of water to be processed by water reclamation system,
6. Cost reduction due to lower shrub and turf maintenance, due to improvement plant health due to ET,
7. Cost reduction in park maintenance due less turf and shrub clippings by reducing over-watering conditions.

Part F: Economic Justification, Benefits to Costs Analysis

F-1 Net Water Savings

We believe that given the range of 30% to 40% reduction that can typically be expected from the use of ET technology, we are hopeful to achieve a reduction near the upper end of the range at 40%.

Given this assumption, we have derived the savings below, having been provided the data from Los Altos Parks and Landscape on the water usage in these parks for the last six years.

No.	Los Altos Parks and Community Property	Total Acres	Turf Acres	Annual Water Usage, Ac-Ft	Annual Water Saved, Ac-Ft at 35%	Total Cost of Water Used at \$800 acre-foot	Total Amount of Water Savings at 35%
1	Rosita Park	5.0	3.1	13.6	4.8	\$ 10,860	\$ 3,801
2	Grant Park	4.5	2.6	11.4	4.0	\$ 9,108	\$ 3,188
3	Lincoln Park - Old	2.9	2.5	10.9	3.8	\$ 8,758	\$ 3,065
4	Soccer Field	1.8	1.8	7.9	2.8	\$ 6,306	\$ 2,207
5	Heritage Oaks Park	5.3	1.3	5.7	2.0	\$ 4,554	\$ 1,594
6	Lincoln Park - New	1.5	1.2	5.3	1.8	\$ 4,204	\$ 1,471
	Totals:	21.1	12.5	54.7	19.2	\$ 43,790	\$ 15,326
Total Annual Savings, 6 Parks, with ET-based Irrigation Controllers:							\$ 15,326

* see App XX for the data tables on the past six year water usage for these 6 parks

Table 5, Net Water Savings for Proposed Project

F-2 Project Budget and Budget Justification

Equipment Purchase and Installation

The requested grant money will be used for the purchase and installation of equipment required for this project. For this project, this includes the ET controllers, flow sensors and installation of phone lines, as given in the table below:

Item	Description	Unit Cost	Qty	Total Cost
1	IWS ET Irrigation Controller - 24 station unit with modem and sensor input	\$ 3,000	6	\$ 18,000
2	Flow Sensor	\$ 480	6	\$ 2,880
3	Subtotal			\$ 20,880
4	8.25% sales tax			\$ 1,723
5	Installation of flow sensors, IWS Controller, initial controller set up	\$ 1,500	6	\$ 9000
6	Installation of SBC phone line and jack at each park location	\$ 2000	5	\$ 10,000
8	Administration /Overhead at 10%			\$ 4,160
9	Contingency costs at 15%			\$ 6,240
Total Cost Equipment & Installation:				\$ 52,004

Table 6 Project Budget for Purchase and Installation of Project Equipment

Operation and Maintenance

In addition, there are operation and maintenance costs associated with this project that will be borne by the City of Los Altos. These costs are summarized in the table below:

Item	Description	Unit Cost	Qty	Total Cost
1	Phone service, monthly cost per phone line, annualized	\$ 15	72	\$ 1,080
2	Support Charge, per controller, per month, annualized	\$ 30	72	\$ 2,160
Total Annual Cost Operation & Maintenance:				\$ 3,240

Table 7 – Operation and Maintenance, First Year

F-3 Economic efficiency

The major economic benefit as a result of this project is a decrease in the amount of water purchased by the City of Los Altos from the California Water Service Company, estimated to be \$15,326 per year. This is water that can now be allocated for other purposes.

There are secondary benefits of reduced maintenance and less run off water to treat. These costs are offset by the operation costs of the ET technology implemented.

We used a 15 year life of project with a capital recovery factor of 0.1030

Benefit/Cost Analysis Tables 1; 2; 3; 4a, 4b, 4c, 4d; and 5

Applicant: City of Los Altos

Table 1: Capital Costs

	Capital Cost Category (a)	Cost (b)	Contingency Percent (c)	Contingency \$ (d) (bxc)	Subtotal (e) (b+d)
(a)	Land Purchase/Easement			0	0
(b)	Planning/Design/Engineering			0	0
(c)	Materials/Installation	19,000	15.00%	2,850	21,850
(d)	Structures			0	0
(e)	Equipment Purchases/Rentals	22,600	15.00%	3,390	25,990
(f)	Environmental Mitigation/Enhancement			0	0
(g)	Construction/Administration/Overhead	4,160	0.00%	630	4,160
(h)	Project Legal/License Fees			0	0
(i)	Other			0	0
(j)	Total (1) (a + ... + i)				52,000
(k)	Capital Recovery Factor: Use Table 6				0.1030
(l)	Annual Capital Costs (j x k)				5,356

(1) Costs must match Project Budget prepared in Section F-2.

Applicant: City of Los Altos

Table 2: Annual Operations and Maintenance Costs

Administration (a)	Operations (b)	Maintenance (c)	Other (d)	Total (e)
0	3,240	0	0	3,240

Table 3: Total Annual Costs

Annual Capital Costs (1) (a)	Annual O&M Costs (2) (b)	Total Annual Costs (c) (a+b)
5,356	3,240	8,596

(1) From Table 1, line (l)

(2) From Table 2, column (e)

Table 4: Water Supply Benefits (2002 Dollars)

Net Water Savings (acre-feet/year) 19.2

Table 4a. Avoided Costs of Current Supply Source

Sources of Supply (a)	Cost of Water (\$/AF) (b)	Annual Displaced Water Supply (AF) (c)	Annual Avoided Costs (\$) (d) (b x c)
CA Water Service Co.	\$800	19.2	15326
			0
			0
			0
			0
Total			15326

Applicant: City of Los Altos

Table 4b. Alternative Costs of Future Supply Sources

Future Supply Sources (a)	Total Capital Costs (\$) (b)	Capital Recovery Factor (1) (c)	Annual Capital Costs (\$) (d) (bxc)	Annual O&M Costs (\$) (e)	Total Annual Costs (\$) (f) (d+e)
			0		0
			0		0
			0		0
			0		0
			0		0
Total					0

(1) Use number from Capital Recovery Factor Table 6

Table 4c. Water Supplier Revenue (Vendability)

Parties Purchasing Project Supplies (a)	Amount of Water to be Sold (AF) (b)	Selling Price (\$/AF) (c)	Expected Frequency of Sales (1) (%) (d)	Expected Selling Price (\$/AF) (e) (cxd)	"Option" Fee (2) (\$/AF) (f)	Total Selling Price (\$/AF) (g) (e+f)	Annual Expected Water Sale Revenue (\$) (h) (b x g)
				0		0	0
				0		0	0
				0		0	0
				0		0	0
				0		0	0
Total							0

(1) During the analysis period, what percentage of years are water sales expected to occur?

For example, if water will only be sold half of the years, enter 50% (0.5).

(2) "Option" fees are paid by a contracting agency to a selling agency to maintain the right of the contracting agency to buy water whenever needed. Although the water may not be purchased every year, the fee is

usually paid every year.

Applicant: City of Los Altos

Table 4d. Total Water Supply Benefits

(a) Annual Avoided Costs of Current Supply Sources from 4a, column (d)	15,326
(b) Annual Avoided Costs of Alternative Future Supply Sources from 4b, column (f)	0
(c) Annual Expected Water Sale Revenue from 4c, column (h)	0
(d) Total Net Annual Water Supply Benefit (\$) (a+b+c)	15,326

Table 5. Benefit/Cost Ratio

Project Benefits (\$)(1)	15,326
Project Costs (\$)(2)	8,596
Benefit/Cost Ratio	1.78

(1) From Table 4d, row (d): Total Annual Water Supply Benefits

(2) From Table 3. column (c): Total Annual Costs